

Beginner Electrical Engineering

Instructor: Saba Bajwa
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Objective: *To develop a well-rounded understanding of the nature of electricity and magnetism, electrical components, circuitry, and basic schematics.*

Note: *Younger classes will spend more time on the introductory portion of this curriculum, pushing Snap Circuits to a later date and eliminating breadboards.*

Syllabus:

Fall 2024

INTRODUCTION TO ELECTRICITY AND CIRCUITS

Week 1 (Aug 26-30) - What is electricity? *Demonstration of projects. Safety. Will it conduct?*

Week 2 (Sep 2-6) - What is a Magnet? *Metals, electromagnets, generators*

Week 3 (Sep 9-13) - Make an electromagnet. Make a generator.

Week 4 (Sep 16-20) - Circuit Journals - Simple Circuits

Week 5 (Sep 23-27) - Circuit Journals - Series Circuits

Week 6 (Sep 30- Oct 4) - Circuit Journals - Parallel Circuits

Week 7 (Oct 7-11) - Circuit Journals - Switch Circuits

Fall Break Oct 14-18

APPLICATION -

Week 8 (Oct 21-25) - Snap Circuits

Week 9 (Oct 28 - Nov 1) - LED Spider, Snap Circuits

Week 10 (Nov 4-8) - Snap Circuits

Week 11 (Nov 11-15) - Snap Circuits

Week 12 (Nov 18-22) - "Thankful for You" Light-Up Greeting Card, Snap Circuits

Thanksgiving Break Nov 25-29

CHALLENGE -

Week 3 (Dec 2-6) - Breadboards - Simple and Parallel Circuits

Week 14 (Dec 9-11) - Breadboards - Series Circuit, Parallel Circuit Challenge

Week 15 (Dec 16-20) - Breadboards - Switch Circuit